HW#29: Factor Quadratics
Geometry
Due Date: Wednesday, Oct. 30th, 2012

Name: _____ TP: _____

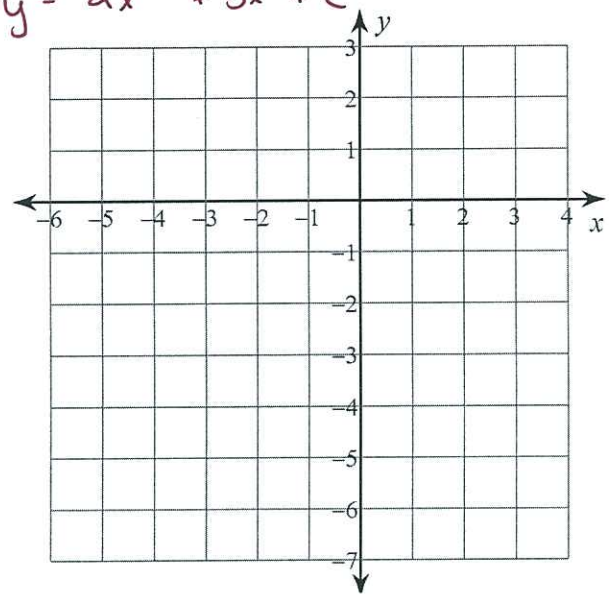
Failure to show work on all problems or use complete sentences will result in a LaSalle. FORM A

1) Determine the solution to the equation by graphing. Label the vertex and axis of symmetry.

$y = -2x^2 - 12x - 16$

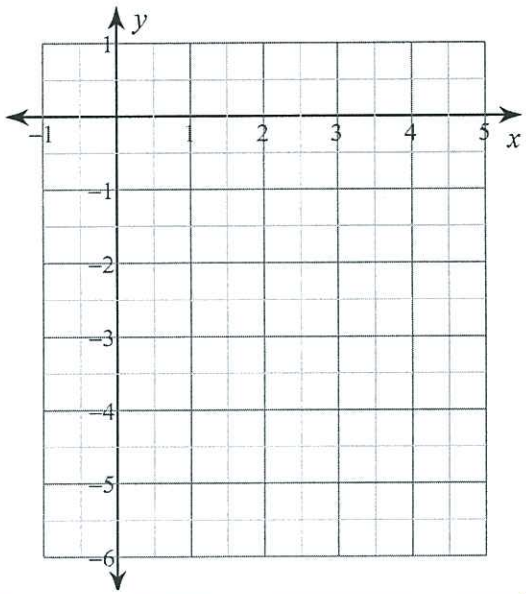
AOS: $\frac{-b}{2a} = x$

$y = ax^2 + bx + c$



2) Determine the solution to the equation by graphing. Label the vertex and axis of symmetry.

$y = -\frac{1}{2}x^2 + 2x - 4$



3) Factor the following:

a) $x^2 - 12x - 13$

First term: $x \cdot x$

Last term: $-13 \cdot 1$ or $13 \cdot -1$

$\frac{x}{x} \quad \frac{-13}{1}$

$(x-13)(x+1)$

b) $x^2 - 14x + 40$

c) $-3x^2 - 17x - 10$

4) Factor the following:

a) $6g^2 + 7g + 2$

$g \cdot 6g$

$2g \cdot 3g$ ← $2 \cdot 1$

$(3g+2)(2g+1)$

$\frac{3g}{2g} \quad \frac{2}{1}$

$2g(2) + 3g(1)$

$4g + 3g = 7g$ ✓

b) $g^2 - 36$

c) $16g^2 - 56g + 49$

5) Describe the transformation from the parent function to $y = 2x^2 + 6$.

6) Describe the transformation from the parent function to $y = -\frac{1}{4}x^2$.

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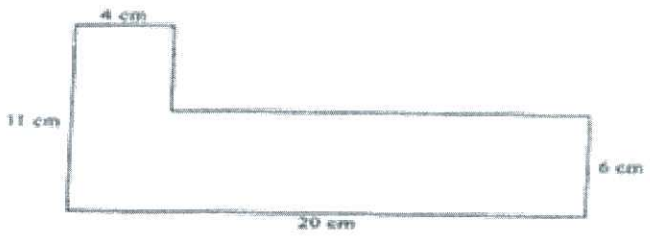
7) Find the area of the following figure.  	8) A circle has a diameter of 26 mm. Give the area of the circle, in millimeters squared.
9) A rectangle has a perimeter of 36 feet with a length of 9 feet. What is the width of the rectangle?	10) A triangle has a base that is half the length of the height. The area of the triangle is 16 square feet. What are the dimensions of the base and height?
11) One side of an equilateral triangle is 6 mm. What is the perimeter? (Hint: A triangle is equilateral if all sides are congruent)	12) What is the circumference of a circle with radius 2.5 inches?

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HW#30: Solve Quadratic Eqts. By Factoring
Geometry
Due Date: Thursday, Oct. 31st, 2012

Name: _____ TP: _____

Failure to show work on all problems or use complete sentences will result in a LaSalle. Form A

1) What is the sum of the solutions to $2x^2 - 7x - 4 = 0$?

$(2x+1)(x-4)$

$x = -\frac{1}{2}, 4$

$\frac{2x}{x} \times \frac{1}{-4}$

$2x(-4) + x(1)$

$-8x + x$

$-7x$ ✓

A. 3.5
B. -4.5
C. -7
D. -9

2) Solve the equations:

a. $2c^2 - 11c + 5 = 0$

b. $-x^2 + x + 20 = 0$

3) What is the sum of the two values that satisfy the equation below?

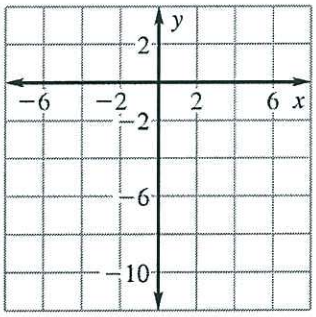
$$k^2 + 6k = 0$$

4) Solve the quadratic equation by factoring:

$$x^2 = 9x - 18$$

5) Find the zeros of the functions by graphing.

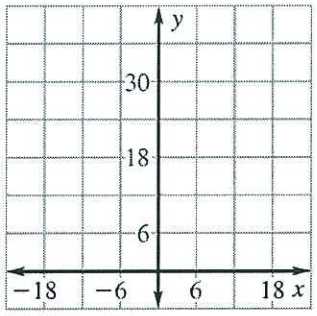
$f(x) = -x^2 - 5x - 10$



x = { , }

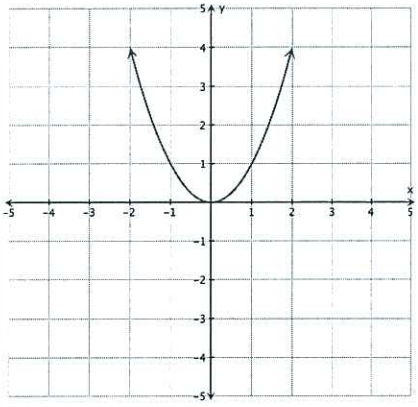
6) Find the zeros of the functions by graphing.

$f(x) = x^2 + 12x + 36$



x = { , }

7) The graph $y = x^2$ is shown below. How many solutions does this quadratic equation have?



A. 0
B. 1
C. 2
D. 3

8) How would the graph of the function $y = x^2 - 2$ affected if the function were changed to $y = x^2 + 1$?

A. Shift 1 unit up
B. Shift 2 units down
C. Shift 3 units down
D. Shift 3 units to the right
E. Shift 3 units up

9) Describe the transformation from the parent quadratic function to $y = -3x^2 + 6$

① ② ③

10) How would the graph of the function $y = x^2 + 6$ be affected if the function were changed to $y = \frac{1}{2}x^2 + 2$?

a) The graph would shrink and shift down.
b) The graph would shrink and shift up.
c) The graph would stretch and shift up.
d) The graph would stretch and shift down.

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11) A fence completely surrounds a park that is 100 feet by 75 feet. What is the approximate length, in feet, of the fence?

12) What is the area of a rectangle if it has a length of 11 inches and a width of 6 inches?

13) The area of a circle is 144 π square units. What is the diameter, in units, of the circle?

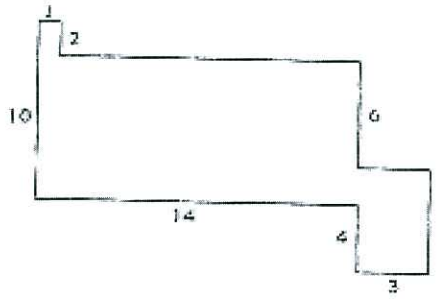
$A = \pi r^2$

$A = 144\pi$

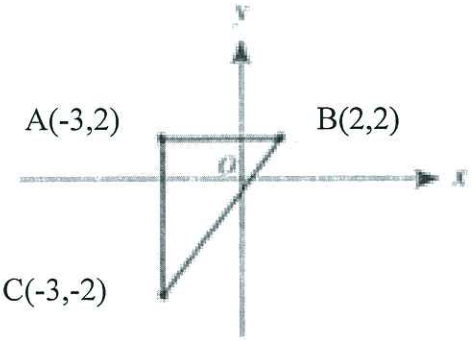
$144\pi = \pi r^2$

14) Leah wants to enclose an area of her backyard for her turtles. She has 64 feet of fencing. The width of the enclosed area can be between 4 and 6 feet. If she wants to use all of the fencing, what are the possible dimensions for the length of the enclosed area, in feet?

15) What is the perimeter of the figure, in centimeters?



16)In the standard (x,y) coordinate plane, if a triangle has vertices at A(-3,2), B(2,2), and C(-3,-2), what is its area in square coordinate units?



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Name: _____ TP: _____

HW#31: Quiz 6 Review
Geometry
Due Date: Monday, Nov. 4th, 2012

Failure to show work on all problems or use complete sentences will result in a LaSalle. FORM A

1) Describe the transformation to $y = -x^2 - 8$ from the parent function.

① Reflection
② No vertical ~~stretch~~ or shrink
③ Vertical shift down 8 units

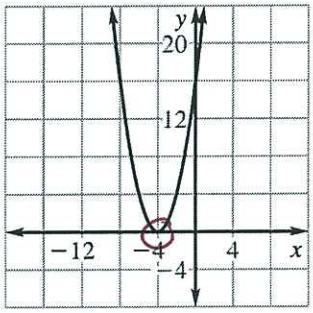
2) Which statement best describes the transformation from $y = x^2 - 3$ to $y = x^2 + 5$?

a) Shift down 8 units
b) Shift up 8 units
c) Shift up 5 units
d) Shift down 3 units

3) Describe the transformation to $y = -4x^2$ from the parent function.

4) Use the graph below to find the solutions of the given equation.

$x^2 + 8x + 16 = 0$

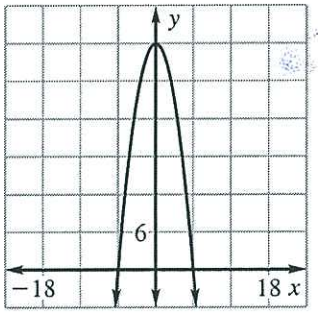


x = {-4}
(where the graph crosses the x-axis)

roots and zeros are the same thing!

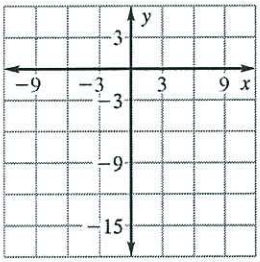
5) Use the graph below to find the solutions of the given equation.

$-x^2 + 36 = 0$



x = { , }

6) What are the roots of the function: $-x^2 + 9x = 18$



7) What is the sum of the roots of the following equation:

$$m^2 + 48 = -14m$$
$$+14m \quad +14m$$
$$m^2 + 14m + 48 = 0$$
$$(m+8)(m+6)$$
$$m = -8, -6$$

$\frac{m}{m}$ $\frac{8}{6}$

Sum = -14

8) Find the zeros of the polynomial function:

$f(x) = 10x^2 + 5x - 5$

9) Find the zeros of the polynomial function:

$f(x) = -3x^2 - 14x + 24$

oops!

$-3x(x+6) + 4(x+6) = 0$

$(-3x+4)(x+6)$

$x = \frac{4}{3}, -6$

$\frac{-3x}{x}$ $\frac{+4}{+6}$

10) What are the roots of the following equation:

$p^2 + 64 = 16p$

11) What is the sum of the roots of the following equation:

$2c^2 - 11c = -5$

12) Find the zeros of the polynomial function:

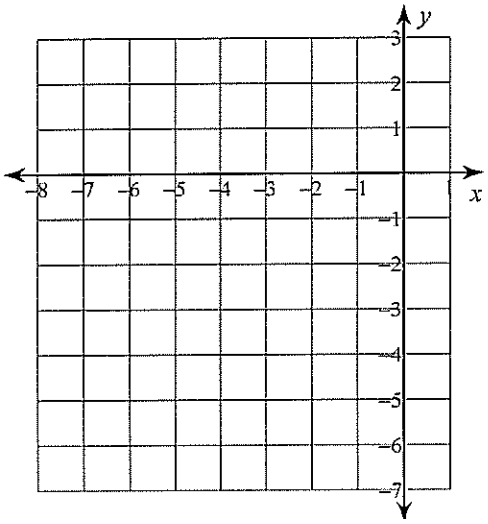
$g(x) = 16r^2 + 18r + 5$

PUSH IT TO THE LIMIT.

When graphing the equations below, show the a) table, b) how you found the axis of symmetry, c) how you ound the vertex, d) domain and range.

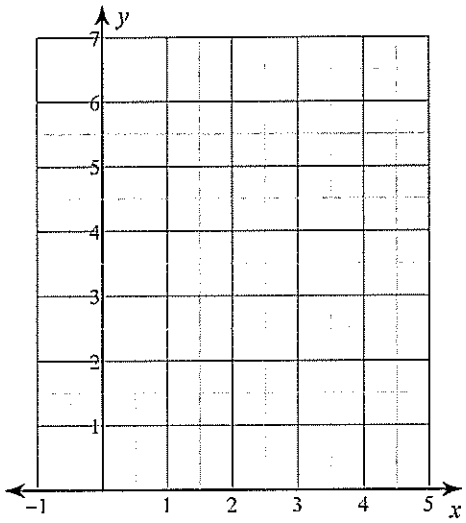
13)

$y = -2x^2 - 16x - 30$



14)

$y = x^2 - 4x + 6$



15) Given a triangle with base 24 cm and height 40 cm, what is the area of the triangle?

16) A rectangle is 5 times long as it is wide. The area of the rectangle is 245 square feet. What is the perimeter of the rectangle, in feet?

17) The circumference of a circle is 24π inches. What is the area, in square inches, of the circle?

18) Ms. Fischer had a garden with sides of lenths 48 feet and 3 feet. She changed the garden into a square with the same area as the original rectangular shaped garden. How many feet in length is each of the sides of the new square-shaped garden?

PUSH IT TO THE LIMIT.